

case study

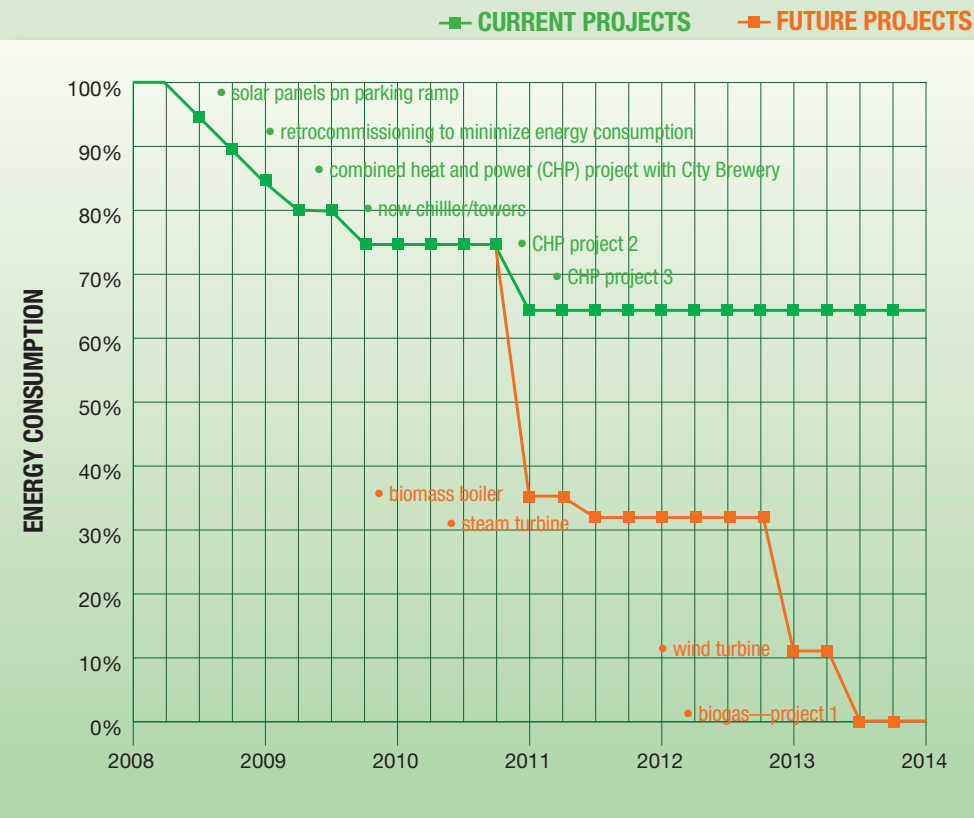


In 2008, Gundersen Lutheran Health System of La Crosse, Wisconsin, set out to improve the well being of the community while also lowering healthcare costs. The hospital's EnVision Program for energy management and environmental stewardship addressed the yearly incremental rise in energy costs with solutions that made sense both environmentally and economically. Through an aggressive program that combines conservation, efficiency, and renewables, Gundersen Lutheran is realizing its goals of reducing baseline energy consumption *and* costs by 20 percent by the end of 2009 and offsetting remaining energy consumption with renewables to achieve 0 percent net energy consumption by 2014 (see graph below).

ENVISION GOALS

Meet 100 percent of energy needs for all facilities by 2014 by creating renewable energy and improving energy efficiency.

- Commit to environmentally and economically sustainable business practices, such as LEED certification of new buildings.
- Partner with communities to encourage economic growth and development and to provide national leadership in renewable energy and energy-efficiency programs.
- Use the EnVision Program as a tool for reducing the cost of patient care.



ENERGY CONTROL MEASURES: ELECTRICITY

Benefits: 4,155,658 kWh reduced and \$267,374 saved annually

- Parking garage solar panels
- Exhaust fan scheduling
 - Following an as-needed schedule based on time of day and seasonal requirements
- Air handler zone scheduling
 - Adjusting temperature settings when offices and clinics are unoccupied
- Water chiller/cooling tower optimization program
 - Utilizing most efficient cooling equipment based on outside conditions
- Condenser water acid feed
 - Improving heat exchanger efficiency by removing hard water scale
- Energy-efficient lighting
 - Retrofitting light fixtures with new lamps, ballasts, reflectors, and sometimes lenses to provide better light at twice the efficiency (going from four lamps to two and in some cases one, with equivalent or greater lighting)
- Variable frequency drives
 - Adjusting motor to use only the energy required for the job

ENERGY CONTROL MEASURES: NATURAL GAS

Benefits: 16,498,400 cu. ft. reduced and \$141,887 saved annually

- Boiler economizer
 - Recovering waste heat to improve efficiency
- Upgraded boiler controls
 - Using only the energy needed, as needed
- High-pressure reducing valve station
 - Allowing three low-pressure boilers to be shut down
- Better insulated pipes and fittings
- Steam trap replacement
 - Reducing losses from failed traps with better design
- Window caulking

2008 IMPLEMENTED ENERGY BENEFIT:

10% OFFSET (as of 12/31/08)

- 4,156,000 kWh
- 16,498,400 cu. ft.
- \$409,000 annualized savings

PLANS FOR 2009

- Operate combined heat and power (CHP) facility at City Brewery (3,000,000 kWh)
- Ongoing retro-commissioning (4,000,000 kWh)
- Implement hospital plant chiller/towers project (800,000 kWh)
- Complete two wind site studies
- Secure two CHP site contracts
- Complete biomass feasibility study

2009 EXPECTED ENERGY BENEFIT:

25% OFFSET (by 12/31/09)

- 10,000,000 kWh
- 40,000,000 cu. ft.
- \$1,250,000 annualized savings

We are proving that you can save money and improve your environmental footprint at the same time by developing a strategy that both lowers our costs and reduces our dependence on traditional energy sources. Potential costs of healthcare are reduced even more by this approach since our actions are helping to prevent illnesses associated with environmental factors. These dollars that we would have spent on energy can now be used for healthcare education and to help decrease the cost of patient care.

Jeff Thompson, MD, CEO
Gundersen Lutheran Health System